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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/701,456	11/06/2003	Steven Walak	12013/47701	8550
23838	7590	09/06/2005	EXAMINER	
KENYON & KENYON 1500 K STREET NW SUITE 700 WASHINGTON, DC 20005			VORTMAN, ANATOLY	
			ART UNIT	PAPER NUMBER
			2835	

DATE MAILED: 09/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/701,456

Applicant(s)

WALAK, STEVEN

Examiner

Anatoly Vortman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/03/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities: as recited on page 5, paragraph 22, the first component may be an elastic metal and is layered on a second component which may be a SMA. Throughout the claims the term first component refers to the SMA and the term second component refers to an elastic metal. The terminology should be consistent throughout the application. This requirement is not met in view of the use of the expressions first component and second component. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being **clearly** anticipated by WO 97/04895 to Zadno-Azizi et al (cited on IDS) (US counterpart US/5611874).

Regarding claims 1-20, the disclosure of Zadno-Azizi et al teaches all of the elements recited in the claims, and specifically, as shown on Fig. 2 and 3: **a two-way actuator formed of composite material, wherein the composite material comprises: a first component**

**comprising a first shape memory alloy (27); and a second component comprising an elastic metal (28), wherein said first component and said second component are metallurgically bonded together** to form said composite material comprising a body having a surface and a cladding covering at least part of the body and being in intimate contact with the surface, with body and cladding being formed of different materials and at least one of the materials being a shape memory alloy e.g. Nickel Titanium SMA (claim 1 and page 4 line 17 to page 6, line 15). It is also disclosed a method for forming this composite structure, according to which body and cladding by drawing down the assembly to a reduced cross sectional area and establishing intimate contact between body and cladding. In an example of forming a composite wire the center core is a SMA and the cladding may be stainless steel, or a highly conductive material such as copper, gold, silver, nickel, etc. The drawing operation creates strong metallurgical adhesion between the SMA core and the cladding and provides a very strong composite material (claims 19-22 and page 7, line 3 to page 9, line 16). A composite structure is additionally described (page 15, line 1 to page 17, line 6) which consists of two planar sheets one of them being a SMA which is cladded for example with stainless steel.

Regarding claims 5-12, Zadno-Azizi et al additionally teaches (Fig. 4 and 9-12) various shapes and forms of the actuator as recited in the claims including multilayered sheet and rod structures.

Regarding claims 13-18, the method steps recited in the claims are not germane to the patentability of the underlining structure. Even though the claims are limited by and defined by the recited process, the determination of patentability of the product is based on the product itself, and does not depend on its method of production. If the product in the product-by-process

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claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). Therefore, the claims have not been given patentable weight.

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US/4808246, 5061914, 5619177, 5825275, 6137623, 6153966, and 6233088 disclosed various arrangements utilizing shape memory materials.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anatoly Vortman whose telephone number is 571-272-2047. The examiner can normally be reached on Monday-Friday, between 10:00 am and 6:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Lynn Feild can be reached on 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anatoly Vortman  
Primary Examiner  
Art Unit 2835

AV

A handwritten signature in black ink, appearing to read 'A. Vortman', followed by a long horizontal line extending to the right.